

Multiply and Divide a Line by a Line.

Unit

$$A = 1.64029$$

$$B = 2.23022$$

$$C = 3.65820$$

$$D = 0.73548$$

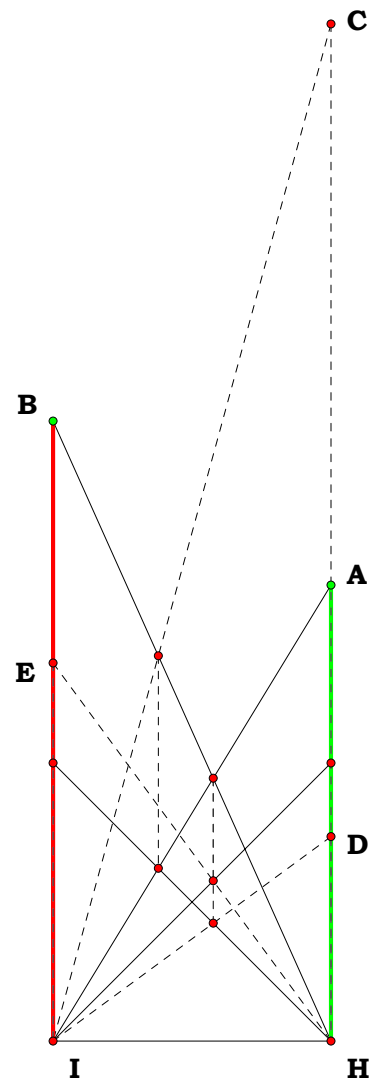
$$E = 1.35965$$

$$A \cdot B \cdot C = 0.00000$$

$$\frac{A}{B} \cdot D = 0.00000$$

$$\frac{B}{A} \cdot E = 0.00000$$

johnclark8659@hotmail.com



Multiply and Divide a Line by a Line.

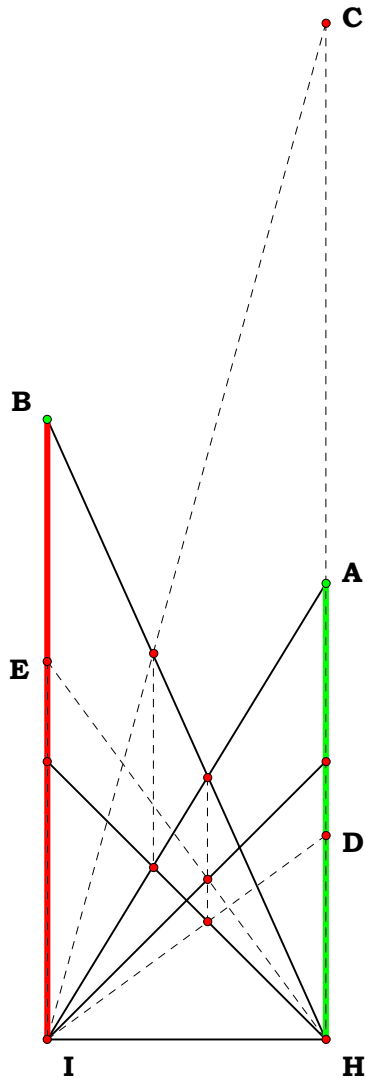
John Clark

$$HI := 3.67771 \quad \text{Unit} := HI$$

$$N_1 := 4 \quad N_2 := 3$$

$$AH := N_1 \cdot HI \quad BI := N_2 \cdot HI$$

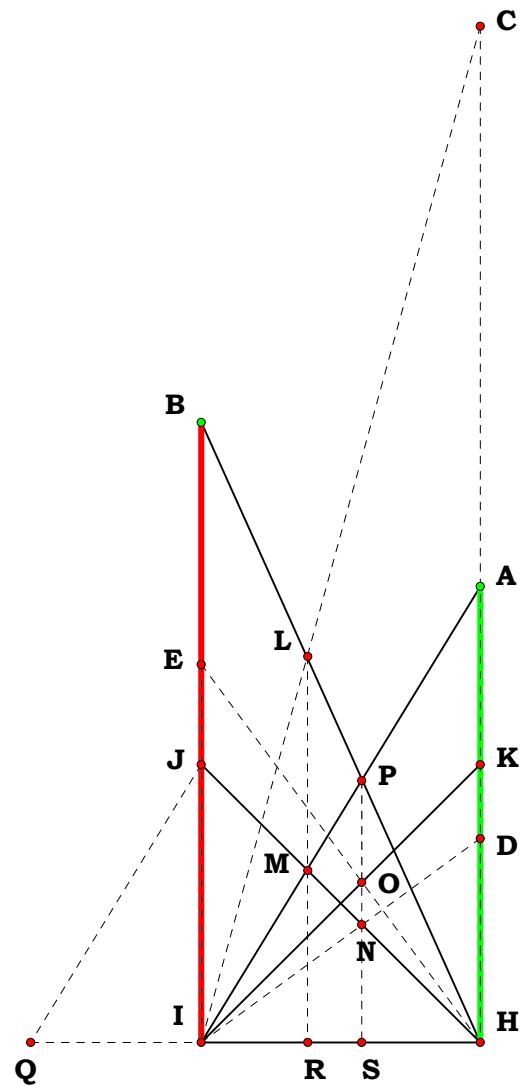
$$JI := HI \quad HK := HI$$



$$IQ := \frac{HI^2}{AH} \quad IR := \frac{IQ \cdot HI}{HI + IQ}$$

$$LR := \frac{BI \cdot (HI - IR)}{HI} \quad CH := \frac{LR \cdot HI}{IR}$$

$$N_3 := \frac{CH}{HI} \quad N_1 \cdot N_2 - N_3 = 0$$



Basic Arithmetic in Geometry

Introduction

An outline of basic math moves in Geometry mainly concerning cardinal operations.

A primary mechanism required for language is the ratio. And it is on a biological level first. On a conscious level, one must understand that as things are to each other, so too our mental manipulations of things must be to each other. This identity between reality and mentality is called rationality. It then follows that people who habitually lie, being aware of it or not, are not rational. On a religious level, when one says that God is Truth, they are enunciating a standard in rationality—of judgment.

Cardinal and Ordinal Operations.

These techniques are primarily focused not on ordinal operations but on cardinal. An example of an ordinal operation is Euclid's Book 1:1. The operations here depend first upon the unit.

Contents

The Unit	Technique 1
Addition Subtraction	Technique 2
Number Construction	Technique 3
Unit Ratio	Technique 4
Fractions.	Technique 5
Ratio Two Numbers.	Technique 6
Multiplication	Technique 7
Division	Technique 8

Basic Techniques

Technique 1. To construct a unit.



With a given line, assert two points.

$\overline{A0B1}$ is the unit by convention.

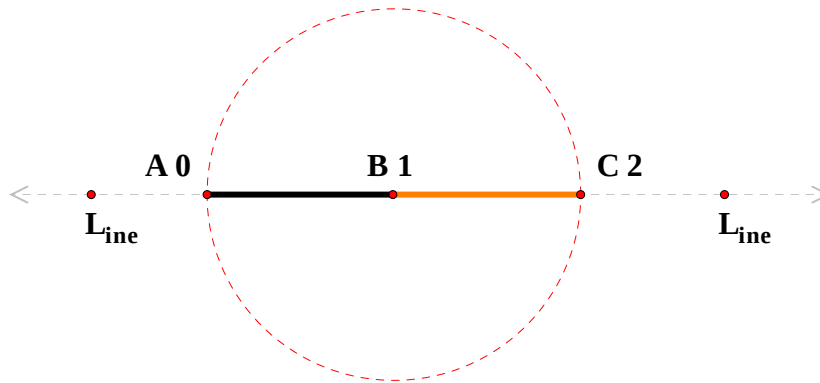
Every formal logic starts the same way—Arithmetic with the definition of the unit, so too in geometry. Craft is all about standards in construction and one starts by constructing our first standard.

Geometry is a relatiologic, which means the material difference is given, and the geometer asserts boundaries. The material difference in geometry is unspecified, of no concern to the geometer. He can neither add to, nor subtract from difference, he can only make things by asserting boundaries to it.

The construction of a unit is understood in this wise:—Between two assertions there is one and only one difference.

Note: Preserve both naming conventions, Geometric and Arithmetic.

Technique 2. To a given unit add another.



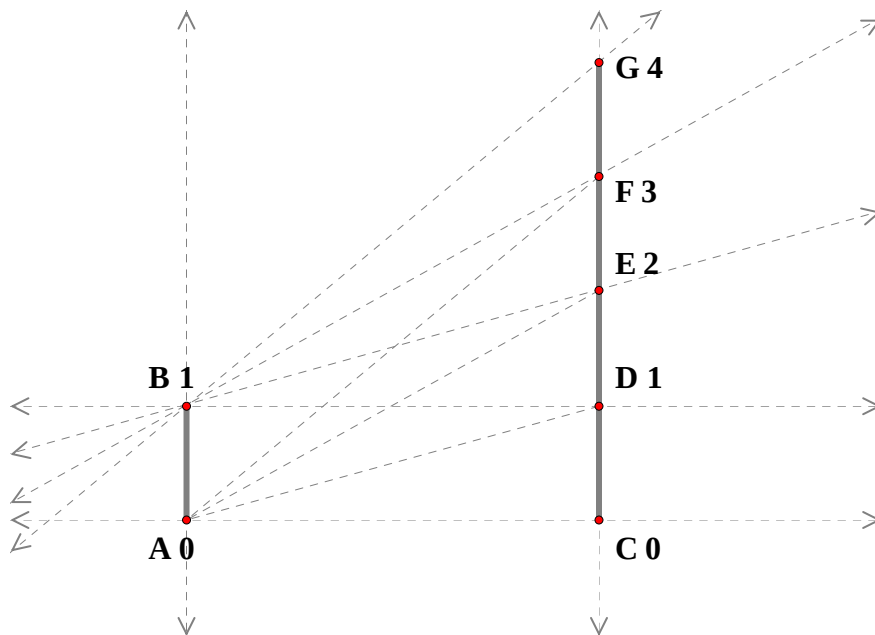
To a given line, Let $\overline{A1B0}$ be the given unit and to it, simply add another. Construct $\odot B1A0$.

$\overline{B1C2}$ is the required addition.

$$1 + 1 = 2 \text{ and } 2 - 1 = 1.$$

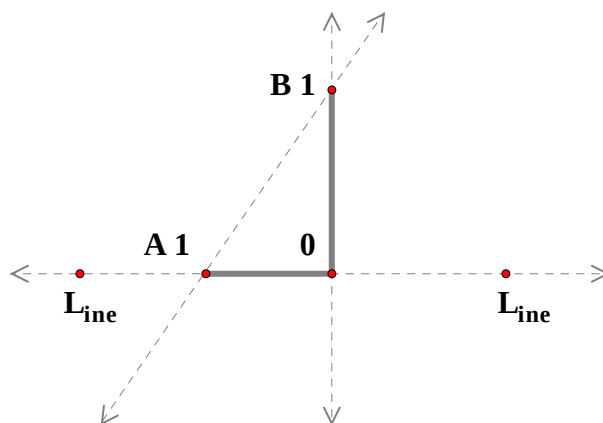
One need not drag this out for subtraction.

Technique 3: To construct a number.



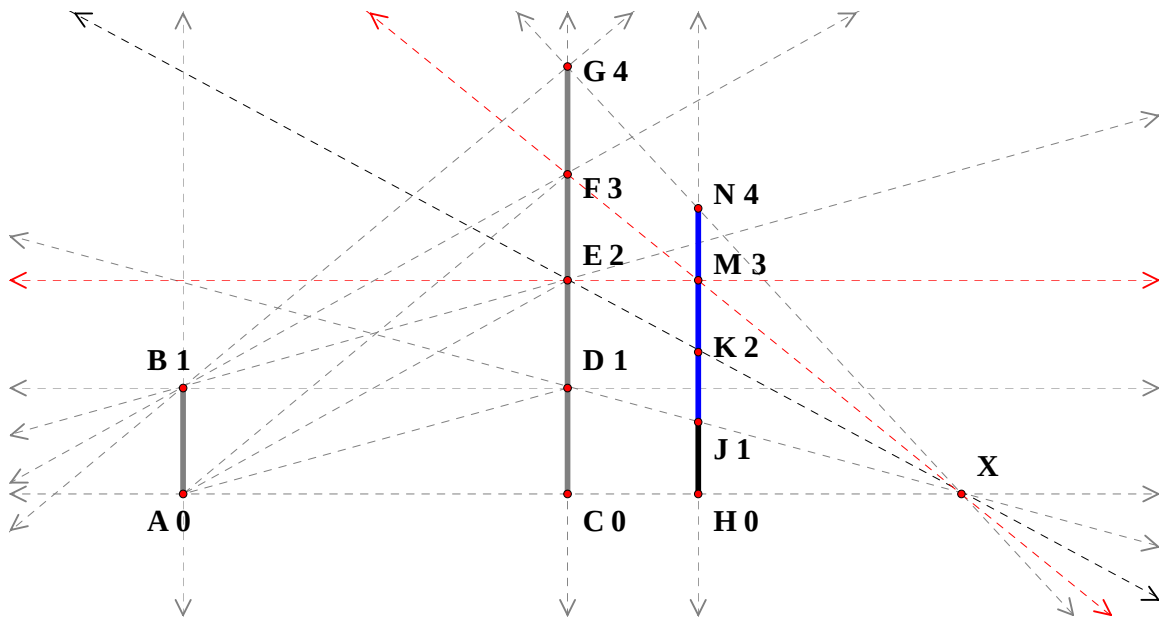
Given $\overline{A_0B_1}$ as our unit and 4 the number we are to construct, etc.,

Technique 4. To construct a ratio between linear units.



$\overline{OA_1} : \overline{OB_1}$ Is what was required .

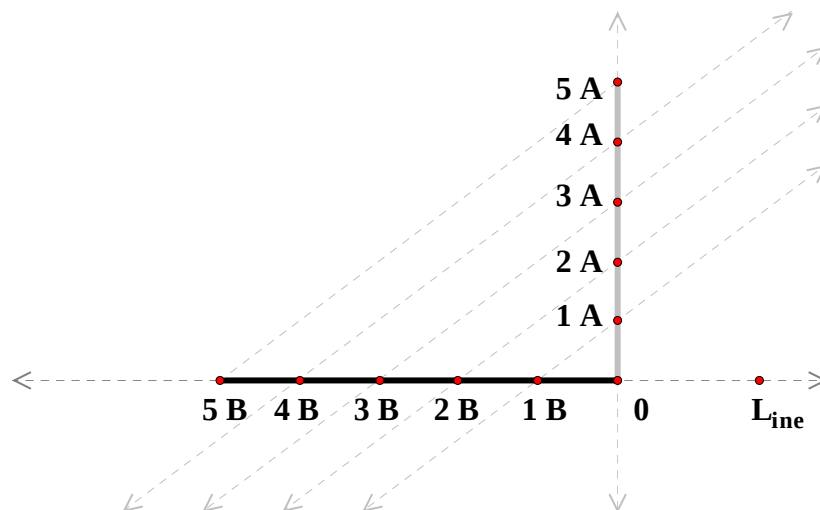
Technique 5. Construct a fraction.



Let $\overline{A_0B_1}$ be our given unit, and $\frac{2}{3}$ the fraction which we are to construct.

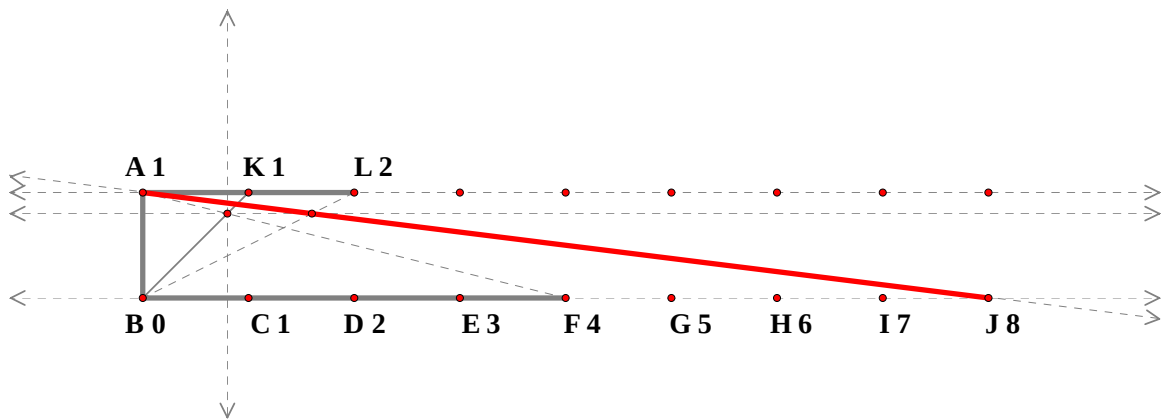
$\overline{H_0J_1}$ is $\frac{2}{3}$. Furthermore, I say that $\overline{H_0N_4}$ is $\frac{4 \times 2}{3} \dots$

Technique 6. Provide a ratio between numbers with two different units.



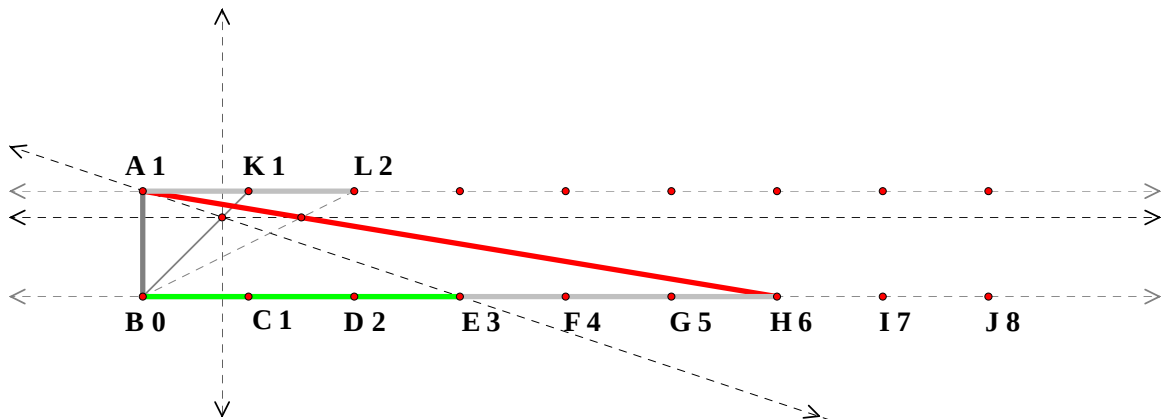
Let the numbers be 5 A and 5 B. Then $1A:1B :: 5A:5B$.

Technique 7. Multiply two numbers.



With the given unit $\overline{A1B0}$ multiply 2×4 .

Technique 8. Divide two numbers.



With the given unit $\overline{A1B0}$ divide 6 by 2.

Multiplication And Division of Lines

**1. An unit is that by virtue of which each of the things that exist is called one.
Euclid's Elements**

**The Basic figures in this little thing are
written up in my work Threee Pieces of
Paper, or The Delian Quest. This is not
a formal presentation, is a presentation
of craft basics.**

John Clark



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Printed via import to MS Word.

Unit = 1.00000

CD = 1.96403

$$\frac{AB}{CD} - AX = 0.00000$$

$$\frac{(\text{Area MAON})}{(\text{Area NOCP})} - \frac{(\text{Area } \triangle \text{BAC})}{(\text{Area } \triangle \text{ADC})} = 0.00000$$

$$\frac{(\text{Area } \triangle \text{BAC})}{(\text{Area } \triangle \text{ADC})} - \frac{(\text{Area MNOA})}{(\text{Area OPSC})} = 0.00000$$

Introduction

Maybe I am too dogmatic, but I think one should have geometry teach one something of basic math. One should be able to add, subtract, multiply and divide with lines. These can provide proofs and constructible.

The figures can be modified in various ways to produce various results. I present a few here. The main figure is composed of the notion of common unit, and that multiplication and division works with square numbers, which is distinct from squaring a number. The square thus constructed provides the properties needed for multiplication and division.

I once read, in an Algebra book, that exponential notation had nothing to do with Geometry, that it was a pure mental abstract. What am I, then, to do with all the figures I have come up with that display the principles?

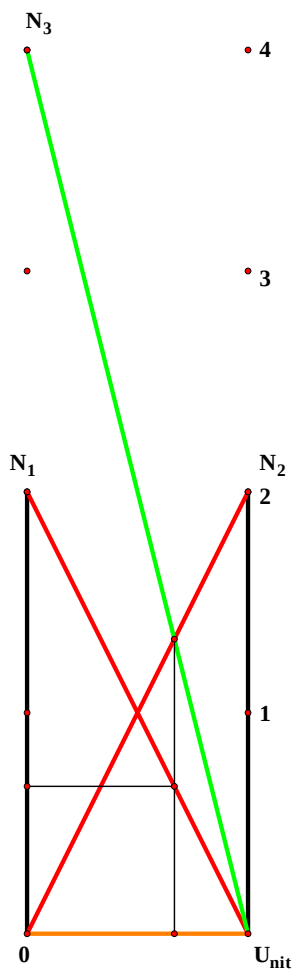
I would also like to see how the four basic operations of Math hold up in "non-Euclidean" Geometries. In fact, as part of their presentation, I think the four basic operations of mathematics should be a requirement. Perhaps by teaching the remaining two in geometry, something about reality and standards of thought will be learned.

The material in this little flyer is not new to me, it is part of four works I am currently engaged in, The Delian Quest, which is essentially completed, it needs some lipstick and a dress, Three Pieces of Paper, Eloi, and something with a puny Latin name.

Oh, and no, I have never studied geometry in an institution-I have never seen ideas survive in an institution. I have and probably will be again, be institutionalized at my own request.

Contents	Page	Function	Page
Function		Link to Introduction	
$(N_1 \cdot N_2) \cdot N_3 = 0.00000$	Link to 1		
$\frac{N_1}{N_2} = 1.13725$ $\frac{N_1+N_2}{N_1} = 1.87931$ $\frac{N_1+N_2}{N_2} = 2.13725$	Link to 2	$\frac{N_1^2}{N_2^2} \cdot N_5 = 0.00000$ $N_2^2 \cdot N_6 = 0.00000$	Link to 11
$\frac{1}{N_1} \cdot N_3 = 0.00000$	Link to 3	$\sqrt{2} \cdot N_5 = 0.00000$ $\frac{\sqrt{2} \cdot N_1}{N_2} \cdot N_6 = 0.00000$ $\frac{N_1 \cdot N_2}{\sqrt{2}} \cdot N_7 = 0.00000$	Link to 12
$\frac{N_1}{N_2^2} \cdot N_4 = 0.00000$ $\frac{N_1}{N_2^3} \cdot N_5 = 0.00000$	Link to 4	$N_5 \cdot 2^{0.75} = 0.00000$ $\left(\frac{N_1}{N_2}\right) \cdot N_5 \cdot N_6 = 0.00000$ $\frac{N_1 \cdot N_2}{N_5} \cdot N_7 = 0.00000$	Link to 13
$2 \cdot N_1 \cdot N_2 \cdot N_1 \cdot N_4 = 0.00000$	Link to 5	$N_1^{0.5} \cdot N_2 = 0.00000$ $N_1^{0.25} \cdot N_3 = 0.00000$ $N_1^{0.125} \cdot N_4 = 0.00000$	Link to 14
$\frac{N_1^2}{(N_2+N_1) \cdot N_2} \cdot N_3 = 0.00000$	Link to 6	$\frac{N_1^{0.5}}{N_2^{0.5}} \cdot N_3 = 0.00000$ $\frac{N_1^{0.25}}{N_2^{0.75}} \cdot N_4 = 0.00000$ $N_1^{0.5} \cdot N_2^{1.5} \cdot N_5 = 0.00000$	Link to 15
$(2 \cdot N_1 \cdot N_2 + N_1^2 \cdot N_2) \cdot N_3 = 0.00000$	Link to 7	$\frac{N_1^2}{(N_1+N_2) \cdot N_2} \cdot N_4 = 0.00000$ $\frac{N_1^2 \cdot N_2}{N_1+N_2} \cdot N_1 = 0.00000$	Link to 16
$N_3^2 \cdot \frac{BC}{BD} = 0.00000$ $N_3^3 \cdot \frac{BC}{BE} = 0.00000$ $N_3^4 \cdot \frac{BC}{BF} = 0.00000$	Link to 8		
$\frac{N_4}{N_2} = 1.39420$ $\frac{N_2}{N_1} = 1.39420$ $\frac{N_1}{Unit_2} = 1.39420$ $\frac{Unit_2}{N_3} = 1.39420$	Link to 9	$\frac{N_1^2}{N_2 \cdot (N_1+1)} \cdot N_1 = 0.00000$ $\frac{N_1^2 \cdot N_2}{N_1+1} \cdot N_1 = 0.00000$	Link to 17
$\frac{N_1^2}{N_2} \cdot N_5 = 0.00000$ $\frac{N_1^3}{N_2^2} \cdot N_6 = 0.00000$ $\frac{N_2^2}{N_1} \cdot N_7 = 0.00000$	Link to 10	$\frac{N_1^2}{N_2^4} \cdot N_7 = 0.00000$ $N_2^4 \cdot N_8 = 0.00000$ $N_2^3 \cdot N_{25} = 0.00000$	Link to 18
		$\frac{N_2^4}{N_1} \cdot N_{26} = 0.00000$ $\frac{N_1}{N_2} \cdot N_{27} = 0.00000$ $\frac{N_2^7}{N_1} \cdot N_8 = 0.00000$	

Function	Contents	Page	Function	Page
	$N_1 \cdot N_2 \cdot \left(\frac{1}{3}\right) \cdot N_9 = 0.00000$ $N_1 \cdot N_2 \cdot \left(\frac{2}{3}\right) \cdot N_{10} = 0.00000$	Link to 19		
	$N_1 \cdot \left(\frac{N_1}{N_1+N_2}\right) \cdot N_5 = 0.00000$ $N_1 \cdot \left(\frac{N_2}{N_1+N_2}\right) \cdot N_6 = 0.00000$	Link to 20		
	$N_1 \cdot N_2 \cdot \left(\frac{N_1}{N_1+N_2}\right) \cdot N_7 = 0.00000$			
	$\frac{1}{N_1^2} \cdot N_2 = 0.00000$ $\frac{1}{N_1^4} \cdot N_3 = 0.00000$ $\frac{1}{N_1^8} \cdot N_4 = 0.00000$	Link to 21		
	$\frac{8}{N_1^8} \cdot N_1 = 0.00000$ $\frac{7}{N_1^8} \cdot N_2 = 0.00000$ $\frac{6}{N_1^8} \cdot N_3 = 0.00000$	Link to 22		
	$\frac{5}{N_1^8} \cdot N_4 = 0.00000$ $\frac{4}{N_1^8} \cdot N_5 = 0.00000$ $\frac{3}{N_1^8} \cdot N_6 = 0.00000$			
	$\frac{2}{N_1^8} \cdot N_7 = 0.00000$ $\frac{1}{N_1^8} \cdot N_8 = 0.00000$ $\frac{0}{N_1^8} \cdot N_9 = 0.00000$			



$$N_1 = 2.00000$$

$$N_2 = 2.00000$$

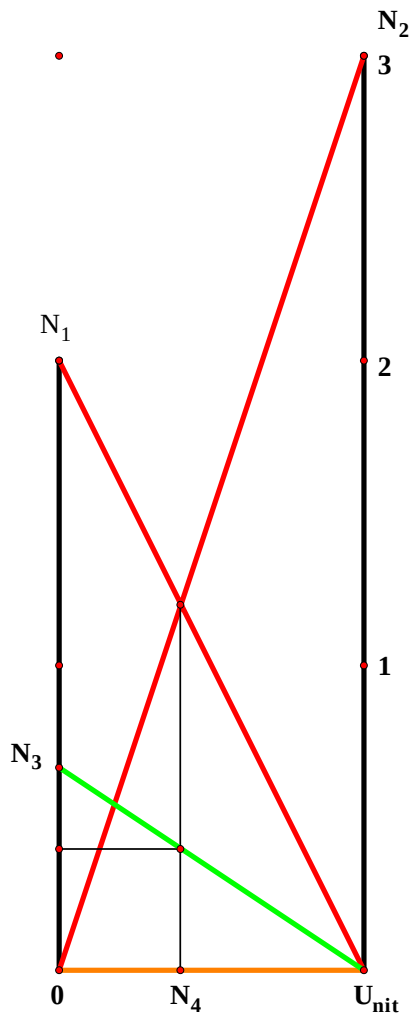
$$N_1 \cdot N_2 = 4.00000$$

$$(N_1 \cdot N_2) - N_3 = 0.00000$$

$$N_3 = 4.00000$$

**Multiply
N1 by N2**

N1		N2	
1	16	1	16
2	17	2	17
3	18	3	18
4	19	4	19
5	20	5	20
6	21	6	21
7	22	7	22
8	23	8	23
9	24	9	24
10	25	10	25
11	26	11	26
12	27	12	27
13	28	13	28
14	29	14	29
15	30	15	30
	31		31



$$N_1 = 2.00000$$

$$N_2 = 3.00000$$

$$\frac{N_1}{N_2} = 0.66667$$

$$N_3 = 0.66667$$

$$\frac{U_{nit}}{0N_4} = 2.50000$$

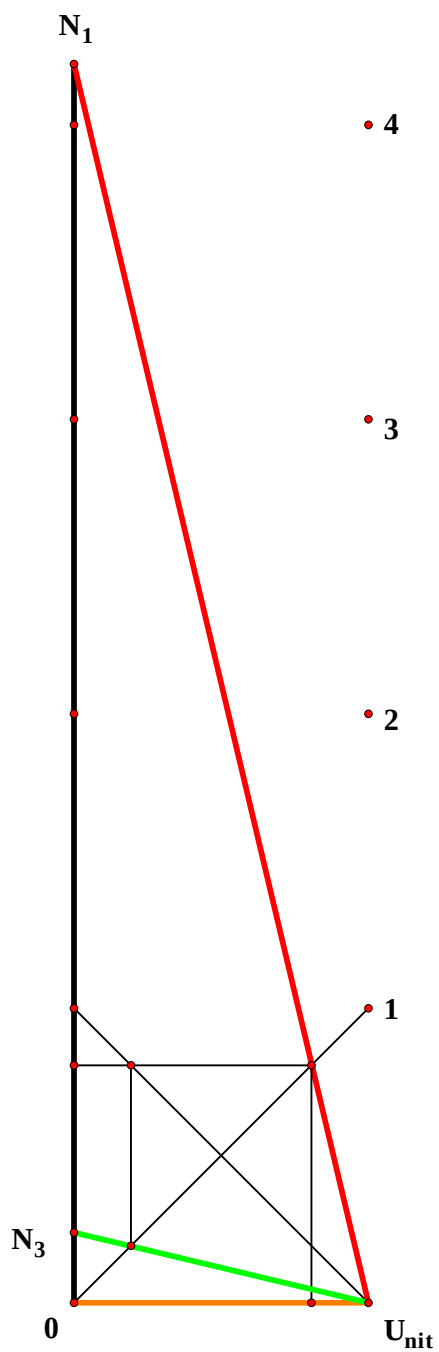
$$\frac{N_1+N_2}{N_1} = 2.50000$$

$$\frac{U_{nit}}{U_{nit}N_4} = 1.66667$$

$$\frac{N_1+N_2}{N_2} = 1.66667$$

**Divide
N1 by N2**

N1		N2	
1	16	1	16
2	17	2	17
3	18	3	18
4	19	4	19
5	20	5	20
6	21	6	21
7	22	7	22
8	23	8	23
9	24	9	24
10	25	10	25
11	26	11	26
12	27	12	27
13	28	13	28
14	29	14	29
15	30	15	30
	31		31



**Find the
Reciprocal N1**

$$N_1 = 4.20930$$

$$\frac{1}{N_1} = 0.23757$$

$$N_3 = 0.23757$$

$$\frac{1}{N_1} - N_3 = 0.00000$$

N1

1	16
2	17
3	18
4	19
5	20
6	21
7	22
8	23
9	24
10	25
11	26
12	27
13	28
14	29
15	30
	31

$$N_1 = 3.00000$$

$$N_2 = 2.00000$$

$$\frac{N_1}{N_2} = 1.50000$$

$$N_3 = 1.50000$$

$$N_4 = 0.75000 \quad \frac{N_1}{N_2^2} - N_4 = 0.00000$$

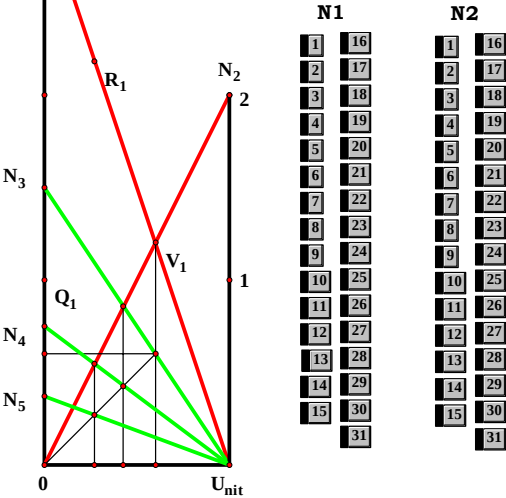
$$N_5 = 0.37500 \quad \frac{N_1}{N_2^3} - N_5 = 0.00000$$

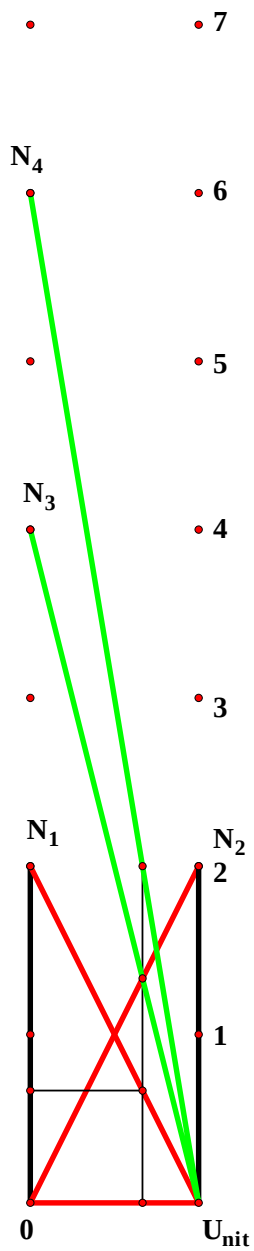
etc.

• 4

• 3

Divide N1 by a
Power of N2

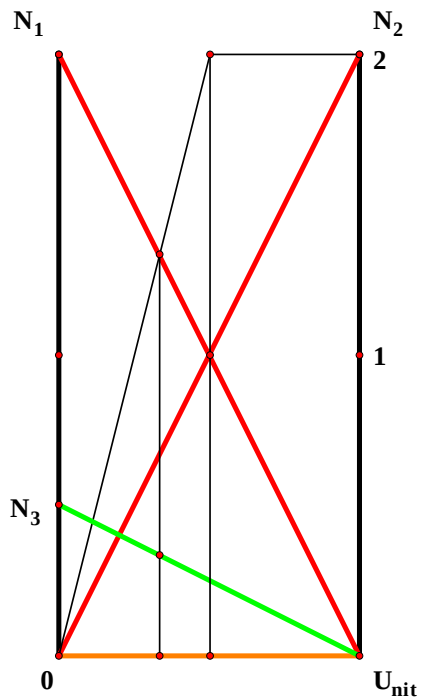




$$\begin{aligned}
 N_1 &= 2.00000 \\
 N_2 &= 2.00000 \\
 N_1 \cdot N_2 &= 4.00000 \\
 N_3 &= 4.00000 \\
 N_4 &= 6.00000 \\
 2 \cdot N_1 \cdot N_2 - N_1 - N_4 &= 0.00000
 \end{aligned}$$

N1		N2	
1	16	1	16
2	17	2	17
3	18	3	18
4	19	4	19
5	20	5	20
6	21	6	21
7	22	7	22
8	23	8	23
9	24	9	24
10	25	10	25
11	26	11	26
12	27	12	27
13	28	13	28
14	29	14	29
15	30	15	30
	31		31

• 3



$$N_1 = 2.00000$$

$$N_2 = 2.00000$$

$$N_3 = 0.50000$$

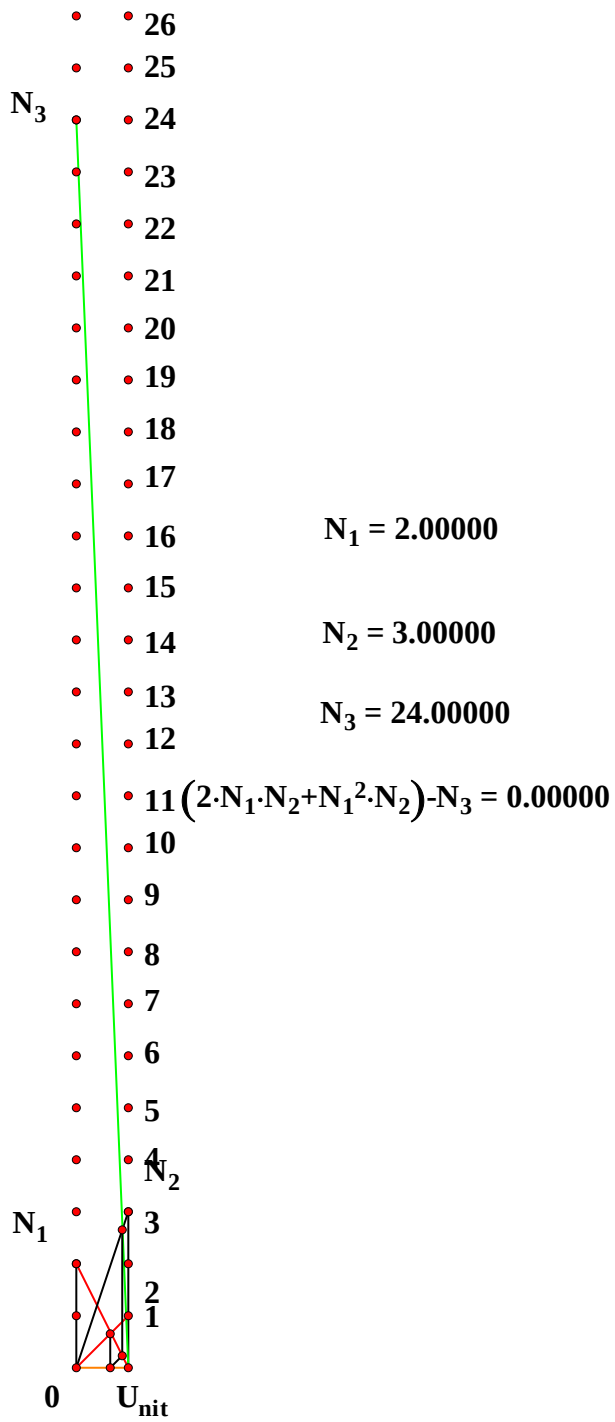
$$\frac{N_1^2}{(N_2+N_1) \cdot N_2} - N_3 = 0.00000$$

N1

1	16
2	17
3	18
4	19
5	20
6	21
7	22
8	23
9	24
10	25
11	26
12	27
13	28
14	29
15	30
	31

N2

1	16
2	17
3	18
4	19
5	20
6	21
7	22
8	23
9	24
10	25
11	26
12	27
13	28
14	29
15	30
	31



$$N_1 = 2.00000$$

$$N_2 = 3.00000$$

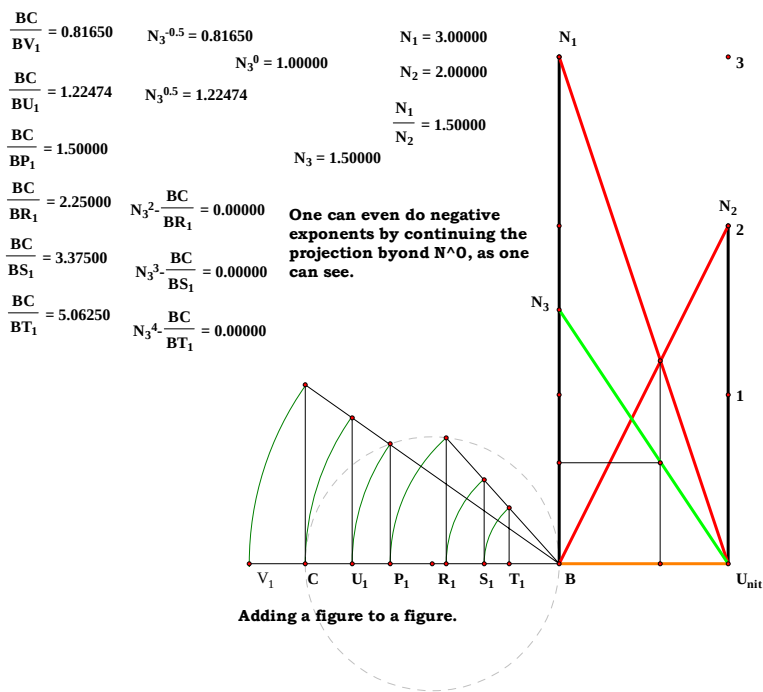
$$N_3 = 24.00000$$

N1

1	16
2	17
3	18
4	19
5	20
6	21
7	22
8	23
9	24
10	25
11	26
12	27
13	28
14	29
15	30
	31

N2

1	16
2	17
3	18
4	19
5	20
6	21
7	22
8	23
9	24
10	25
11	26
12	27
13	28
14	29
15	30
	31



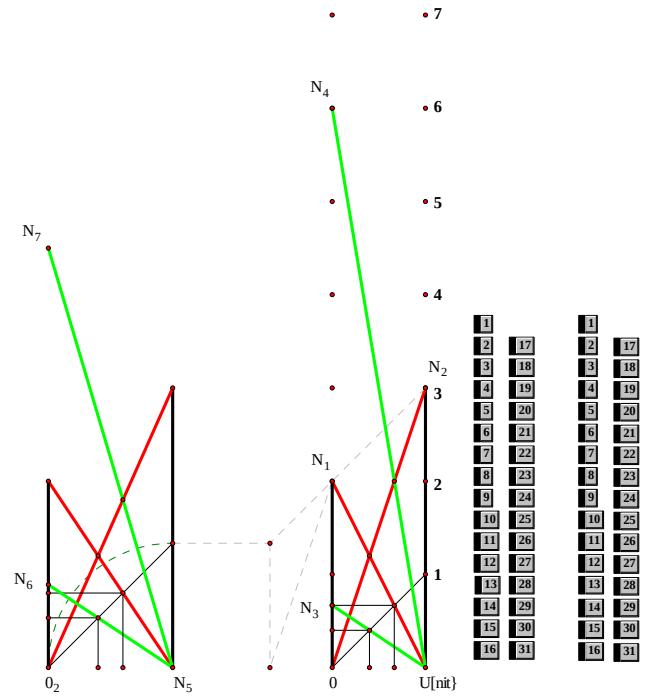
I tossed this together, so it is not perfect--it just looks good

N1		N2	
1	16	1	16
2	17	2	17
3	18	3	18
4	19	4	19
5	20	5	20
6	21	6	21
7	22	7	22
8	23	8	23
9	24	9	24
10	25	10	25
11	26	11	26
12	27	12	27
13	28	13	28
14	29	14	29
15	30	15	30
	31		31

$$\frac{\text{Unit}_2}{\text{N3}_2} = 1.39420$$
$$\frac{\text{Unit}_1}{\text{N3}_1} = 1.39420$$

$$\begin{aligned}
 & \text{Unit} = 1.00000 \\
 & N_1 = 2.00000 \\
 & N_2 = 3.00000 \\
 & N_3 = 0.66667 \\
 & N_4 = 6.00000 \\
 & N_5 = 1.33333 \\
 & N_6 = 0.88889 \\
 & N_7 = 4.50000
 \end{aligned}$$

$$\begin{aligned}
 & \frac{N_1}{N_2} \cdot N_3 = 0.00000 \\
 & N_1 \cdot N_2 \cdot N_4 = 0.00000 \\
 & \frac{N_1^2}{N_2} \cdot N_5 = 0.00000 \\
 & \frac{N_1^3}{N_2^2} \cdot N_6 = 0.00000 \\
 & \frac{N_2^2}{N_1} \cdot N_7 = 0.00000
 \end{aligned}$$

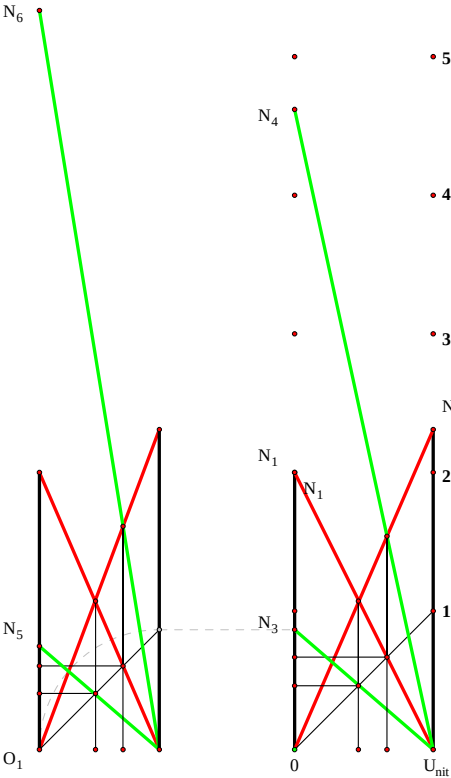


Unit = 1.00000
N₁ = 2.00000
N₂ = 2.30952
N₃ = 0.86598
N₄ = 4.61905

$\frac{N_1}{N_2} \cdot N_3 = 0.00000$
 $N_1 \cdot N_2 \cdot N_4 = 0.00000$

N₅ = 0.74992
N₆ = 5.33390

$\frac{N_1^2}{N_2^2} \cdot N_5 = 0.00000$
 $N_2^2 \cdot N_6 = 0.00000$

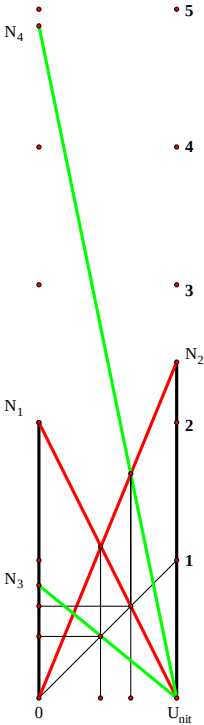
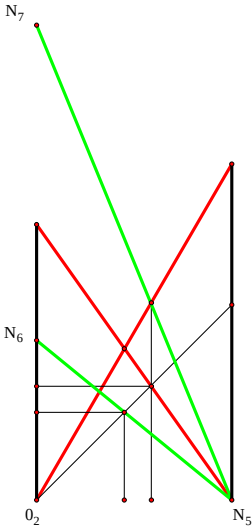


1	17	2	17
2	18	3	18
3	19	4	19
4	20	5	20
5	21	6	21
6	22	7	22
7	23	8	23
8	24	9	24
9	25	10	25
10	26	11	26
11	27	12	27
12	28	13	28
13	29	14	29
14	30	15	30
15	31	16	31

Unit = 1.00000
 N₁ = 2.00000
 N₂ = 2.43939

N₃ = 0.81988 $\frac{N_1}{N_2} \cdot N_3 = 0.00000$
 N₄ = 4.87879 $N_1 \cdot N_2 \cdot N_4 = 0.00000$

N₅ = 1.41421 $\sqrt{2} \cdot N_5 = 0.00000$
 N₆ = 1.15948 $\frac{\sqrt{2} \cdot N_1}{N_2} \cdot N_6 = 0.00000$
 N₇ = 3.44982 $\frac{N_1 \cdot N_2}{\sqrt{2}} \cdot N_7 = 0.00000$



1	1	1	1
2	12	2	17
3	18	3	18
4	19	4	19
5	20	5	20
6	21	6	21
7	22	7	22
8	23	8	23
9	24	9	24
10	25	10	25
11	26	11	26
12	27	12	27
13	28	13	28
14	29	14	29
15	30	15	30
16	31	16	31

Unit = 1.00000

$N_1 = 2.00000$

$N_2 = 2.00000$ $\frac{N_1}{N_2} \cdot N_3 = 0.00000$

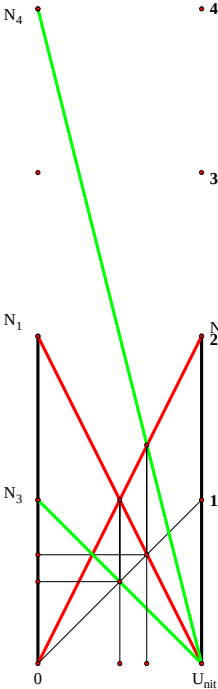
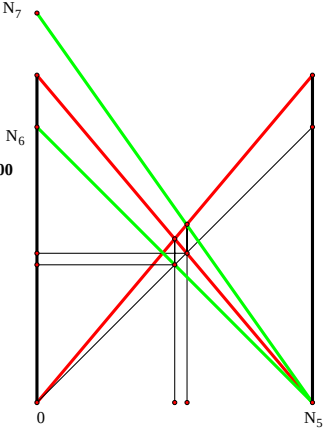
$N_3 = 1.00000$

$N_4 = 4.00000$ $N_1 \cdot N_2 \cdot N_4 = 0.00000$

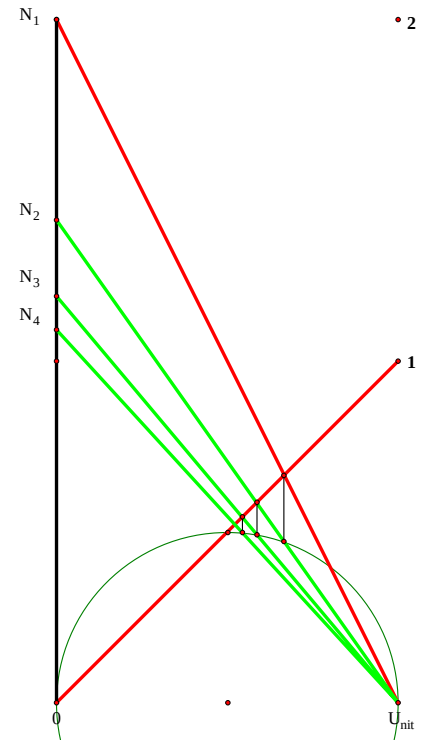
$N_5 = 1.68179$ $N_5 \cdot 2^{0.75} = 0.00000$

$N_6 = 1.68179$ $\left(\frac{N_1}{N_2}\right) \cdot N_5 \cdot N_6 = 0.00000$

$N_7 = 2.37841$ $\frac{N_1 \cdot N_2}{N_5} \cdot N_7 = 0.00000$



1	17	1	17
2	18	2	18
3	19	3	19
4	20	4	20
5	21	5	21
6	22	6	22
7	23	7	23
8	24	8	24
9	25	9	25
10	26	10	26
11	27	11	27
12	28	12	28
13	29	13	29
14	30	14	30
15	31	15	31
16		16	

$$N_1^{0.125}-N_4 = 0.00000$$


1	
2	17
3	18
4	19
5	20
6	21
7	22
8	23
9	24
10	25
11	26
12	27
13	28
14	29
15	30
16	31

Unit = 1.00000

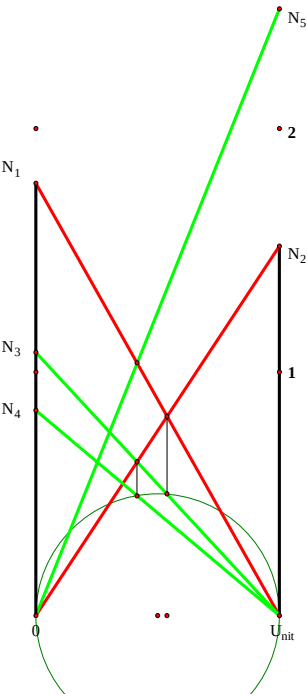
N₁ = 1.77542

N₂ = 1.51695

N₃ = 1.08185 $\frac{N_1^{0.5}}{N_2^{0.5}} - N_3 = 0.00000$

N₄ = 0.84450 $\frac{N_1^{0.25}}{N_2^{0.75}} - N_4 = 0.00000$

N₅ = 2.48947 $N_1^{0.5} \cdot N_2^{1.5} \cdot N_5 = 0.00000$



1	1
2	17
3	18
4	19
5	20
6	21
7	22
8	23
9	24
10	25
11	26
12	27
13	28
14	29
15	30
16	31

Unit = 1.00000

$N_1 = 2.00000$

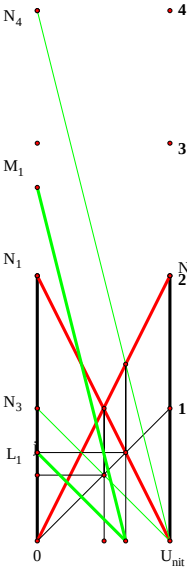
$N_2 = 2.00000 \quad \frac{N_1}{N_2} \cdot N_3 = 0.00000$

$N_3 = 1.00000$

$N_4 = 4.00000 \quad N_1 \cdot N_2 \cdot N_4 = 0.00000$

$L_1 = 0.66667 \quad \frac{N_1^2}{N_2 \cdot (N_1 + 1)} \cdot L_1 = 0.00000$

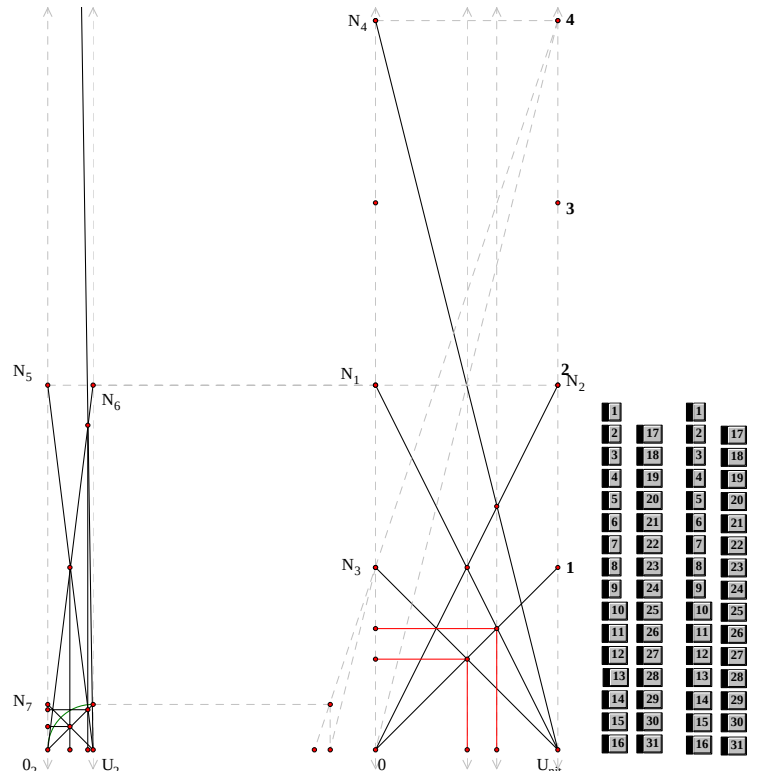
$M_1 = 2.66667 \quad \frac{N_1^2 \cdot N_2}{N_1 + 1} \cdot M_1 = 0.00000$



1	17	2	17
2	18	3	18
3	19	4	19
4	20	5	20
5	21	6	21
6	22	7	22
7	23	8	23
8	24	9	24
9	25	10	25
10	26	11	26
11	27	12	27
12	28	13	28
13	29	14	29
14	30	15	30
15	31	16	31

$U_1 = 1.00000$
 $N_1 = 2.00000$
 $N_2 = 2.00000$
 $N_3 = 1.00000$
 $N_4 = 4.00000$
 $U[1] / U_2 = 0.25000$
 $N_5 = 2.00000$
 $N_6 = 2.00000$
 $N_7 = 0.25000$
 $N_8 = 16.00000$
 $U_2 = 1.00000$
 $N_{25} = 8.00000$
 $N_{26} = 8.00000$
 $N_{27} = 1.00000$
 $N_8 = 64.00000$

$\frac{N_1}{N_2} = 1.00000$
 $N_1 \cdot N_2 \cdot N_4 = 0.00000$
 $\frac{N_1^2}{N_2^4} \cdot N_7 = 0.00000$
 $N_2^4 \cdot N_8 = 0.00000$
 $N_2^3 \cdot N_{25} = 0.00000$
 $\frac{N_2^4}{N_1} \cdot N_{26} = 0.00000$
 $\frac{N_1}{N_2} \cdot N_{27} = 0.00000$
 $\frac{N_2^7}{N_1} \cdot N_8 = 0.00000$



Unit = 1.00000

$N_1 = 1.72159$

$$\frac{N_1}{N_2} \cdot N_3 = 0.00000$$

$N_2 = 2.12500$

$$N_1 \cdot N_2 \cdot N_4 = 0.00000$$

$N_3 = 0.81016$

$$\frac{N_1}{N_2} = 0.81016$$

$N_4 = 3.65838$

$N_5 = 0.57386$

$N_6 = 1.14773$

$N_7 = 0.70833$

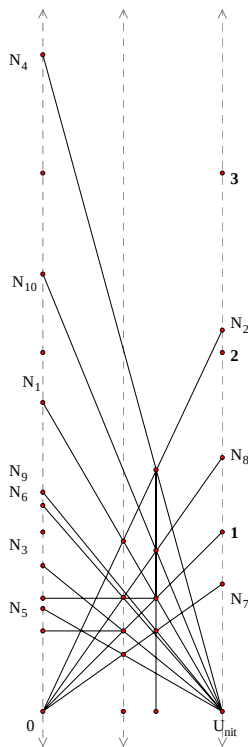
$N_8 = 1.41667$

$N_9 = 1.21946$

$$N_1 \cdot N_2 \cdot \left(\frac{1}{3}\right) \cdot N_9 = 0.00000$$

$N_{10} = 2.43892$

$$N_1 \cdot N_2 \cdot \left(\frac{2}{3}\right) \cdot N_{10} = 0.00000$$



1	17	1	17
2	18	2	18
3	19	3	19
4	20	4	20
5	21	5	21
6	22	6	22
7	23	7	23
8	24	8	24
9	25	9	25
10	26	10	26
11	27	11	27
12	28	12	28
13	29	13	29
14	30	14	30
15	31	15	31
16	32	16	32

$$\text{Unit} = 1.00000$$

$$N_1 = 1.37056$$

$$N_2 = 1.73096$$

$$N_3 = 0.79179 \qquad \frac{N_1}{N_2} = 0.79179$$

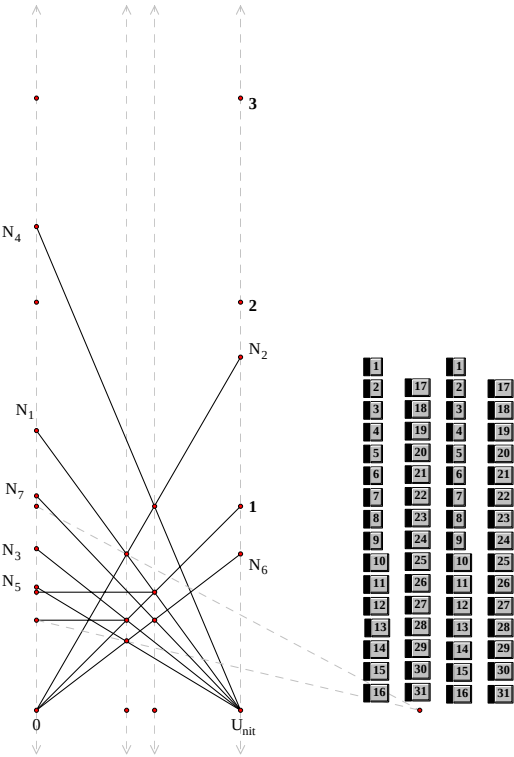
$$N_4 = 2.37239 \qquad N_1 \cdot N_2 = 2.37239$$

$$\frac{N_1}{N_2} = 0.79179$$

$$N_5 = 0.60565 \qquad N_1 \cdot \left(\frac{N_1}{N_1 + N_2} \right) \cdot N_5 = 0.00000$$

$$N_6 = 0.76491 \qquad N_1 \cdot \left(\frac{N_2}{N_1 + N_2} \right) \cdot N_6 = 0.00000$$

$$N_7 = 1.04835 \qquad N_1 \cdot N_2 \cdot \left(\frac{N_1}{N_1 + N_2} \right) \cdot N_7 = 0.00000$$



$$N_4 = 1.09051$$

$$\frac{1}{N_1^8} - N_4 = 0.00000$$

The diagram shows a set of nodes arranged vertically on four dashed lines. From left to right, the nodes are labeled \$N_1\$, \$N_2\$, \$N_3\$, \$N_4\$, \$0\$, \$U_1\$, \$U_2\$, and \$U_{nit}\$. There are also isolated nodes labeled \$1\$ and \$2\$ at the top right. Solid black lines connect \$N_1\$ to \$U_{nit}\$ (highlighted in red), \$N_2\$ to \$U_1\$, \$N_3\$ to \$U_1\$, \$N_4\$ to \$U_1\$, \$0\$ to \$U_1\$, and \$0\$ to \$U_{nit}\$. Dashed green arcs connect \$0\$ to \$U_1\$ and \$0\$ to \$U_{nit}\$. A thick red line connects \$N_1\$ to \$U_{nit}\$. Nodes \$1\$ and \$2\$ are isolated.

1	
2	17
3	18
4	19
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7	22
8	23
9	24
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11	26
12	27
13	28
14	29
15	30
16	31

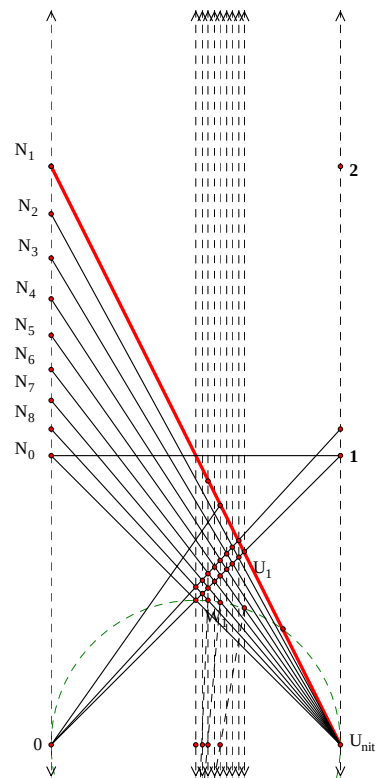
Unit = 1.00000

$N_1 = 2.00000$	$N_1^{\frac{8}{8}} - N_1 = 0.00000$
$N_2 = 1.83401$	$N_1^{\frac{7}{8}} - N_2 = 0.00000$
$N_3 = 1.68179$	$N_1^{\frac{6}{8}} - N_3 = 0.00000$
$N_4 = 1.54221$	$N_1^{\frac{5}{8}} - N_4 = 0.00000$
$N_5 = 1.41421$	$N_1^{\frac{4}{8}} - N_5 = 0.00000$
$N_6 = 1.29684$	$N_1^{\frac{3}{8}} - N_6 = 0.00000$
$N_7 = 1.18921$	$N_1^{\frac{2}{8}} - N_7 = 0.00000$
$N_8 = 1.09051$	$N_1^{\frac{1}{8}} - N_8 = 0.00000$
$N_0 = 1.00000$	$N_1^{\frac{0}{8}} - N_0 = 0.00000$

etc.

Eight root series.

One can project as long as they like.



1	17
2	18
3	19
4	20
5	21
6	22
7	23
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9	25
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11	27
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14	30
15	31

The computational speed by straight edge and compass outdoes long hand by factors. The computational accuracy exceeds that of any binary computer. The understanding as to what numbers mean cannot be outdone. Yet, instead of improving Euclid, they made a mess of it.

What led me to this solution was not Euclid, it was my own geometry play-especially doing the formula's and solution to a power line In order to solve for the power line, I actually had to know how to divide a square by a line. That coupled with the feeling that one should know the basic mathematical operations in geometry, as a starter made me break down and simply do it.

Geometry is still undefined. It is undefined because, as we know, a set can be constructed in only two ways, by enumeration and by definition. By saying that Euclidean Geometry only uses two tools, the straight edge and compass, we have enumerated its set. To define it, one would have to say, Geometry is that language by which we speak where there is one, and only one difference between two points.

This change not only defines Euclidean Geometry, but we find that it has been short changed for a long time. A straight edge does indeed give us one and only one difference between two points, and so does a compass, these are the unit and universe of discourse in the subject. However, there is yet one more tool, that tool that gives us every ratio in-between the unit and the universe, the ellipes. There is indeed one and only one difference between the two points called the foci of an ellipse.

If one can accept that, one can then understand my solution to the Delian Problem. A figure that gives one every aspect of an ellipse and one simply has to lay it down. Accepting that definition also takes something that is implied in Euclidean Geometry and makes it explicit, the ability to add, to do the math.

I hope you have fun.